

1. A lithographic printing original plate having a photosensitive layer on a substrate directly or on an another layer provided thereon, said photosensitive layer being made of a crosslinked polymer having ink repellency, and having properties that the photosensitive layer is changed from ink-repellent to ink-receptive by irradiation with a light.

15 3. The lithographic printing original plate as claimed
inclaim1, wherein the photosensitive layer is a photosensitive
hydrophilic resin layer obtained by crosslinking a
photosensitive composition comprising a hydrophilic polymer,
a crosslinking agent, a light absorbing compound and a
20 hydrophobic polymer.

4. The lithographic printing original plate as claimed in claim 2, wherein the photosensitive hydrophilic resin layer

has a phase separation structure consisting of a hydrophilic polymer phase and a hydrophobic polymer phase.

5. The lithographic printing original plate as claimed
5 in claim 3, wherein the hydrophilic polymer is a polymer
containing as a main component one or more monomers selected
from unsubstituted or substituted (meth)acrylamide,
N-vinylformamide and N-vinylacetamide, the hydrophobic
polymer is an aqueous dispersion polymer having an average
10 particle diameter of 0.005 to 0.5 μm and a film forming
temperature of not higher than 50°C, and the photosensitive
hydrophilic resin layer has a phase separation structure
consisting of a hydrophilic polymer phase and a hydrophobic
polymer phase.

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6. The lithographic printing original plate as claimed
in claim 4 or 5, wherein the photosensitive layer has a property
which is locally foamed by irradiation with a light and changed
from ink-repellent to ink-receptive.

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7. A process for producing a lithographic printing
plate, comprising irradiating the lithographic printing
original plate of claim 5 or 6 with a light having a wavelength
of 750 to 1100 nm.

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8. A lithographic printing plate obtained by irradiating a lithographic printing original plate having a photosensitive layer on a substrate directly or on an another layer provided thereon, said photosensitive layer being made of a crosslinked polymer having ink repellency, with a light to change the photosensitive layer from ink-repellent to ink-receptive.

9. The lithographic printing plate as claimed in claim 8, wherein the photosensitive layer is a photosensitive hydrophilic resin layer obtained by crosslinking a photosensitive composition comprising a hydrophilic polymer, a crosslinking agent and a light absorbing compound.

10. The lithographic printing plate as claimed in claim 8, wherein the photosensitive layer is a photosensitive hydrophilic resin layer obtained by crosslinking a photosensitive composition comprising a hydrophilic polymer, a crosslinking agent, a light absorbing compound and a hydrophobic polymer.

11. The lithographic printing plate as claimed in claim 9, wherein the photosensitive hydrophilic resin layer has a

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phase separation structure consisting of a hydrophilic polymer phase and a hydrophobic polymer phase.

12. The lithographic printing plate as claimed in claim
5 10, wherein the hydrophilic polymer is a polymer containing
as a main component one or more monomers selected from
unsubstituted or substituted (meth)acrylamide,
N-vinylformamide and N-vinylacetamide, the hydrophobic
polymer is an aqueous dispersion polymer having an average
10 particle diameter of 0.005 to 0.5 μm and a film forming
temperature of not higher than 50°C, and the photosensitive
hydrophilic resin layer has a phase separation structure
consisting of a hydrophilic polymer phase and a hydrophobic
polymer phase.

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13. The lithographic printing plate as claimed in claim
11 or 12, wherein the photosensitive layer is locally foamed
by irradiation with a light and changed from ink-repellent
to ink-receptive.

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14. The lithographic printing plate as claimed in claim
12 or 13, wherein the light for the irradiation has a wavelength
of 750 to 1100 nm.

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